

DELAWARE CONSTRUCTION SPECIFICATION

STEEL REINFORCEMENT CS 35

1. SCOPE

The work shall consist of furnishing and placing steel reinforcement for reinforced concrete.

2. MATERIALS

Steel reinforcement shall conform to the requirements of ASTM Specification A-615. Before reinforcement is placed the surfaces of the bars and fabric and any metal supports shall be cleaned to remove any loose, flaky rust, mill scale, oil, grease, or other coating or foreign substances. After placement the reinforcement shall be maintained in a clean condition until it is completely embedded in the concrete.

3. BENDING

Reinforcement shall be cut and bent in compliance with the requirements of the American Concrete Institute Standard 315. Bars shall not be bent or straightened in a manner that will injure the material. Bars with kinks, cracks or improper bends will be rejected. When not specified in the steel schedule, bars may be cut and bent in the field.

4. SPLICING BAR REINFORCEMENT

Unless otherwise specified on the drawings, splices of reinforcing bars shall be in accordance with the ACI Building Code Requirements for Reinforced Concrete (ACI 318-83), Chapter 12.

5. SPLICING WELDED WIRE FABRIC

Welded wire fabric shall be spliced in the following manner:

- a. Adjacent sections shall be spliced end to end by either:
 - (1) Overlapping the two pieces of fabric one full mesh (measured from the ends of the longitudinal wires in one piece to the ends of the longitudinal wires in the other piece) and securing the

two pieces together with wire ties placed at intervals of 18 inches; or,

- (2) Overlapping the two pieces of fabric so that the end crosswire of each piece comes in contact with the next-to-end crosswire of the other piece and securing the two pieces together only as required to keep the fabric in place and to prevent it from curling.

b. Adjacent sections or fabric shall be spliced side to side by either:

- (1) Placing the two selvage wires (the longitudinal wires at the edges of the fabric) one along the side and overlapping the other and securing the two pieces together with wire ties placed at intervals of 3 feet; or
- (2) Placing each selvage wire in the middle of the first mesh of the other section at intervals of 10 feet by means of wire ties placed on the selvage wires alternately at intervals of 5 feet.

6. **PLACING**

Reinforcement shall be accurately placed and secured in position in a manner that will prevent its displacement during the placement of concrete. Tack welding of bars will not be permitted. Metal chairs, metal hangers, metal spacers and concrete chairs may be used to support the reinforcement. Metal hangers, spacers and ties shall be placed in such a manner that they will not be exposed in the finished concrete surface. The legs of metal chairs that may be exposed at the lower face of slabs or beams shall be galvanized as specified for iron and steel hardware in ASTM Specification A-153. Precast concrete chairs shall be manufactured of the same class of concrete as that specified for the structure and shall have tie wires securely anchored in the chair or a V-shaped groove at least $\frac{3}{4}$ inch in depth molded into the upper surface to receive the steel bar at the point of support. Precast concrete chairs shall be moist at the time concrete is placed.

Reinforcement shall not be placed until the prepared site has been inspected and approved by the technician. After placement of the reinforcement, concrete shall not be placed until the reinforcement has been inspected and approved by the technician.